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EXAMINER

PATEL, DHARYA A

ART UNIT	PAPER NUMBER
2151	

DATE MAILED: 10/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/993,865	CULLEN ET AL.	
	Examiner	Art Unit	
	Dhairy A. Patel	2151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 11 September 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-31 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-31 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

DETAILED ACTION

1. This action is responsive to communication filed on 9/11/2006. Claims 1-31 are presented for examination.
2. This amendment has fully considered and entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3,7-12,16-17,20-25,28-31 rejected under 35 U.S.C. 103(a) as being unpatentable over Chandrasekaran et al. U.S. Patent # 6,397,352 (hereinafter Chandrasekaran) in view of Hamada et al. U.S. Patent # 5,596,720 (hereinafter Hamada) further in view of Danneels et al. U.S. Patent # 5,805,825 (hereinafter Danneels)

As per claim 1, Chandrasekaran teaches a method of handling messages received at a messaging system server, the method comprising:

-storing, in non-persistent storage, messages received from at least one client; (Fig. 2A element 204) (column 6 lines 61-67) (column 7 lines 1-2).

The reference teaches the message is stored in the propagation queue (non-persistent storage).

-attempting to deliver one of the messages stored in the non-persistent storage (column 10 lines 44-49);

The reference teaches attempting to deliver the messages stored in the non-persistent storage (volatile memory)

-removing, if the attempt was successful, the message from the non-persistent storage (Fig. 3 element 308) (column 10 lines 50-51)(column 11 lines 33-43) and;

The reference teaches the message is removed from the propagation queue (non-persistent storage)

-saving to persistent storage (Fig. 2 element 2A), after a delay interval has elapsed, content of at least one of the messages stored in the non-persistent storage(column 9 lines 11-14)(Column 7 lines 28-57)(Fig. 3).

The reference clearly teaches that the message is in the propagation queue which is non-persistent storage (volatile) because once the message is sent to the destination which there is a certain delay, the propagation process then receives message data (content of the message) to store in durable or non-volatile memory (persistent storage) at the source site and by maintaining the propagated message data in a nonvolatile memory (column 7 lines 30-39) a recovery mechanism is provided that allows the source site to determine whether the message has been sent to the destination site.

Chandrasekaran fails to teach retrieving and delivering the message saved to the persistent storage. Hamada teaches retrieving and delivering the message saved to the persistent storage (Fig. 21 element 101-5, 201-5)(column 17 lines 35-65)(Fig. 23). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention was made to implement Chandrasekaran's teaching in Hamada's teaching to

come up retrieving and delivering the message that is save in the persistent storage. The motivation for doing so would be so the message can be retrieved from the non-volatile memory and retransmitted or re-sent to the receiver or the destination at a later time, therefore non-volatile/persistent storage is used to save the message for later retransmission.

Chandrasekaran and Hamada fails to teach continuing, after the attempt, to store the message in the non-persistent storage. Danneels teaches continuing, after the attempt, to store the message in the non-persistent storage (column 6 lines 58-67)(column 7 lines 1-7). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention was made to implement Danneel's teaching in Chandrasekaran and Hamada's teaching to come up with storing the message after the attempt. The motivation for doing so would so that incase the message is not transferred, the message can still be resent from the non-persistent storage, instead of looking for the message in the persistent storage and then sending the message, therefore saving time.

As per claim 2, Chandrasekaran and Hamada and Danneels teaches the method of claim 1, but Chandrasekaran further teaches wherein the storing, removing, and saving occur concurrently. (Fig 3 element 302-322)

As per claim 3, Chandrasekaran and Hamada and Danneels teaches the method of claim 1, but Chandrasekaran further teaches wherein storing in the non-persistent storage comprises storing in a log queue. (Fig. 2A element 204) (Column 6 lines 61-67) (Column 7 lines 1-2).

As per claim 7, Chandrasekaran and Hamada and Danneels teaches the method of claim 1, but Chandrasekaran further teaches further comprising determining the delay interval. (Column 8 lines 20-39)

As per claim 8, Chandrasekaran teaches the method of claim 7, wherein determining the delay interval comprises: determining at least one metric based on messages handled by the server; and determining the delay interval based on the at least one metric (column 8 lines 20-39). The reference teaches adding a priority attribute to determine when the messages are sent to the destination site. Therefore each message is going to be given a number, which is basically like keeping a count of number of messages handled by the server. Therefore since the server is going to give priority value to each message and also associated with the message is the UID, which is identifying the message, the server knows how many messages are handled by the server by which it will find out when these messages in the queue will be delivered to the destination site.

As per claim 9, Chandrasekaran teaches the method of claim 8, wherein the metric comprises a metric based on a number of sending clients using the server to deliver messages. (Column 8 lines 20-47). The reference teaches the propagation queue having a UID, and priority value (Fig. 2A) assigned to each message. Therefore since there is UID for each message, which is like keeping count of the messages, so in order to send a message a client has to be present therefore since the numbers of messages are known which is equal to number of sending clients using the server to deliver the messages.

As per claim 10, Chandrasekaran teaches the method of claim 7, wherein determining the delay interval comprises dynamically determining the delay. (Column 8 lines 20-47)

As per claim 11, Chandrasekaran and Hamada and Danneels teaches the method of claim 1, but Chandrasekaran further teaches wherein the received messages are received over a communications network. (Fig. 13 element 728,722,726,720)

As per claim 12, Chandrasekaran and Hamada and Danneels teaches the method of claim 1, but Chandrasekaran further teaches wherein the messages comprise guaranteed messages; (column 7 lines 39-57) and wherein the messaging system comprises a message-oriented middleware system. (Column 7 lines 27-38)

The reference teaches sends the commit messages (guaranteed messages) to the destination site to indicate the transaction (transferring) should be committed. The reference also teaches that messages are maintained in the non-volatile memory at the source site until they are transferred to the destination site. Therefore in case of the source site failure, destination site will fetch the message from the non-volatile memory from the source site.

As per claim 16, Chandrasekaran teaches a computer program product, disposed on a computer readable medium, for handling messages received at a server, the computer program including instructions for causing a server processor to:

-store, in a non-persistent storage (Fig. 2A element 204), messages received from at least one client as the messages are received; (column 6 lines 61-67) (column 7 lines 1-2)

The reference teaches the message is stored in the propagation queue (non-persistent storage).

-attempt to deliver one of the messages stored in the non-persistent storage (column 10 lines 44-49);

The reference teaches attempting to deliver the messages stored in the non-persistent storage (volatile memory)

-remove, if the attempt was successful the message from the non-persistent storage; and (Fig. 3 element 308) (column 10 lines 50-51)(column 11 lines 33-43) and;

The reference teaches the message is removed from the propagation queue (non-persistent storage)

-save to persistent storage (Fig. 2A element 212), after a delay period has elapsed, content of at least one of the messages stored in the non-persistent storage(column 9 lines 11-14)(Column 7 lines 28-57) (Fig. 3).

The reference clearly teaches that the message data (content of the message) are stored in the durable or non-volatile memory (persistent storage) and by maintaining the propagated message data in a nonvolatile memory (column 7 lines 30-39), a recovery mechanism is provided that allows the source site to determine whether the message has been sent to the destination site.

Chandrasekaran fails to teach retrieving and delivering the message saved to the persistent storage. Hamada teaches retrieving and delivering the message saved to the persistent storage (Fig. 21 element 101-5, 201-5)(column 17 lines 35-65)(Fig. 23). It would have been obvious to one of ordinary skill in the art at the time of applicant's

invention was made to implement Chandrasekaran's teaching in Hamada's teaching to come up retrieving and delivering the message that is save in the persistent storage. The motivation for doing so would be so the message can be retrieved from the non-volatile memory and retransmitted or re-sent to the receiver or the destination at a later time, therefore non-volatile/persistent storage is used to save the message for later retransmission.

Chandrasekaran and Hamada fails to teach continuing, after the attempt, to store the message in the non-persistent storage. Danneels teaches continuing, after the attempt, to store the message in the non-persistent storage (column 6 lines 58-67)(column 7 lines 1-7). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention was made to implement Danneels's teaching in Chandrasekaran and Hamada's teaching to come up with storing the message after the attempt. The motivation for doing so would so that incase the message is not transferred, the message can still be resent from the non-persistent storage, instead of looking for the message in the persistent storage and then sending the message, therefore saving time.

As per claim 17, Chandrasekaran and Hamada and Danneels teaches a computer program of claim 16, but Chandrasekaran further teaches wherein the instructions for causing the server processor to store messages in a non-persistent storage comprise instructions for causing the server processor to store the messages in a log queue (Fig. 2A element 204)(column 6 lines 61-67) (column 7 lines 1-2).

As per claim 20, Chandrasekaran and Hamada and Danneels teaches a computer program of claim 16, but Chandrasekaran further teaches further comprising instructions for causing the server processor to determine the delay. (Column 8 lines 20-39)

As per claim 21, Chandrasekaran teaches the computer program of claim 20, wherein the instructions for causing the server processor to determine the delay comprise instructions for causing the server processor to: determine at least one metric based on the received messages; and determine the delay based on the at least one metric (column 8 lines 20-39). The reference teaches adding a priority attribute to determine when the messages are sent to the destination site. Therefore each message is going to be given a number, which is basically like keeping a count of number of messages received. Therefore it is inherent since the server is going to give priority value to each messages and also associated with the message is the UID, which is identifying the message, the server knows how many messages are received by the server by which it will find out when these messages in the queue will be delivered to the destination site.

As per claim 22, Chandrasekaran teaches the computer program of claim 21, wherein the metric comprises a metric based on a number of clients using the server to deliver messages. (Column 8 lines 20-47). The reference teaches the propagation queue having a UID, and priority value (Fig. 2A) assigned to each message. Therefore since there is UID for each message, which is like keeping count of the messages, so it is inherent that in order to send a message a client has to be present therefore since the

number of messages are known which is equal to number of sending clients using the server to deliver the messages.

As per claim 23, Chandrasekaran and Hamada and Danneels teaches a computer program of claim 16, but Chandrasekaran further teaches wherein the instructions for causing the processor to determine the delay comprise instructions for causing the processor to dynamically determining the delay. (Column 8 lines 20-47)

As per claim 24-25,28-31, they teach same limitations as claims 1-17,20-23 respectively, therefore rejected under same basis.

4. Claims 4-6,13-15,18-19,26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chandrasekaran in view of Hamada in view of Danneels further in view of Stein et al. U.S. Patent 6,289,212 (hereinafter Stein).

As per claim 4, Chandrasekaran and Hamada and Danneels teaches the method of claim 1, but fails to teach further comprising transmitting an acknowledgement message to a client that sent a received message, the acknowledgement message indicating that the received message will not be lost by the server in the case of server failure. Stein teaches transmitting an acknowledgement message to a client that sent a received message, the acknowledgement message indicating that the received message will not be lost by the server in the case of server failure. (Column 12 lines 21-37). It would have obvious to one of ordinary skill in the art at the time of applicant's invention to implement Chandrasekaran and Hamada and Danneels's invention in Stein's invention to come up with transmitting an acknowledgement message. The

motivation for transmitting the acknowledgement message is to let the user know that the message has been sent and be delivered.

As per claim 5, Chandrasekaran and Hamada and Danneels fails to teach the method of claim 4, wherein transmitting an acknowledgment message to the client comprises transmitting the acknowledgment message to the client for a delivered message. Stein teaches the method of claim 4, wherein transmitting an acknowledgment message to the client comprises transmitting the acknowledgment message to the client for a delivered message. (Column 12 lines 21-37) It would have obvious to one of ordinary skill in the art at the time of applicant's invention to implement Chandrasekaran and Hamada and Danneels's invention in Stein's invention to come up with transmitting an acknowledgement message. The motivation for transmitting the acknowledgement message is to let the user know that the message has been sent and be delivered.

As per claim 6, Chandrasekaran and Hamada and Danneels fails to teach the method of claim 4, wherein transmitting an acknowledgment message to the client comprises transmitting the acknowledgment message to the client for the received message's storage in persistent storage. Stein teaches the method of claim 4, wherein transmitting an acknowledgment message to the client comprises transmitting the acknowledgment message to the client for the received message's storage in persistent storage. (Column 12 lines 21-37). The reference teaches that message is sent and the facsimile message is placed in the asynchronous request queue. It would have obvious to one of ordinary skill in the art at the time of applicant's invention to implement

Chandrasekaran and Hamada and Danneels's invention in Stein's invention to come up with transmitting the acknowledgement message for the received message's storage in persistent storage. The motivation for doing so would have been so that the client knows that message is going to be delivered properly.

As per claim 13, Chandrasekaran teaches a method of handling guaranteed messages received at a message-orient middleware server over a network, the method comprising: storing, in a log queue in non-persistent storage guaranteed messages received from at least one client as the guaranteed messages are received (Fig. 2A element 204) (Column 6 lines 61-67) (Column 7 lines 1-2)(column 7 lines 28-57); -attempting to deliver one of the guaranteed messages stored in the non-persistent storage (column 10 lines 44-49);

The reference teaches attempting to deliver the messages stored in the non-persistent storage (volatile memory)

-removing, if the attempt was successful the guaranteed message from the non-persistent storage (Fig. 3 element 308) (column 10 lines 50-51); dynamically determining a delay time period(Column 8 lines 20-47); storing to persistent storage, after the determined delay period has elapsed, content of at least one of the guaranteed messages stored in the non-persistent storage (column 9 lines 11-14)(Column 7 lines 28-52) (Fig. 3) .

The reference clearly teaches that the guaranteed message is in the propagation queue (log queue) which is non-persistent storage (volatile) because once the guaranteed message is sent to the destination which there is a certain delay, the

propagation process then stores the message data in durable or non-volatile memory (persistent storage) at the source site and by maintaining the propagated message data in a nonvolatile memory (column 7 lines 30-39) (emphasis added), a recovery mechanism is provided that allows the source site to determine whether the message has been sent to the destination site.

Chandrasekaran fails to teach retrieving and delivering the message saved to the persistent storage. Hamada teaches retrieving and delivering the message saved to the persistent storage (Fig. 21 element 101-5, 201-5)(column 17 lines 35-65)(Fig. 23). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention was made to implement Chandrasekaran's teaching in Hamada's teaching to come up retrieving and delivering the message that is save in the persistent storage. The motivation for doing so would be so the message can be retrieved from the non-volatile memory and retransmitted or re-sent to the receiver or the destination at a later time, therefore non-volatile/persistent storage is used to save the message for later retransmission.

Chandrasekaran fails to teach transmitting a guarantee acknowledgement message to a client that sent a received message, the message indicating that the message will not be lost by the server. Stein teaches transmitting a guarantee acknowledgement message to a client that sent a received message, the message indicating that the message will not be lost by the server (column 12 lines 21-37). The reference teaches that the facsimile message has been sent is a guaranteed message

indicating the message is not going to be lost because if the other side would not receive the fax, the message has been sent would not be displayed.

It would have obvious to one of ordinary skill in the art at the time of applicant's invention to implement Chandrasekaran and Hamada's invention in Stein's invention to come up with transmitting an acknowledgement message. The motivation for transmitting the acknowledgement message is to let the user know that the message has been sent and be delivered.

Chandrasekaran and Hamada fails to teach continuing, after the attempt, to store the message in the non-persistent storage. Danneels teaches continuing, after the attempt, to store the message in the non-persistent storage (column 6 lines 58-67)(column 7 lines 1-7). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention was made to implement Danneel's teaching in Chandrasekaran and Hamada's teaching to come up with storing the message after the attempt. The motivation for doing so would so that incase the message is not transferred, the message can still be resent from the non-persistent storage, instead of looking for the message in the persistent storage and then sending the message, therefore saving time.

As per claim 14, Chandrasekaran and Hamada and Danneels and Stein teaches the method of claim 13, but Chandrasekaran and Hamada and Danneels fails to teach transmitting the guarantee acknowledgement message comprises transmitting the guarantee acknowledgement message for a delivered guaranteed message if the guaranteed message is not persistently stored, the guarantee acknowledgement

message otherwise being sent when the message is persistently stored. Stein teaches transmitting the guarantee acknowledgement message comprises transmitting the guarantee acknowledgement message for a delivered guaranteed message if the guaranteed message is not persistently stored, the guarantee acknowledgement message otherwise being sent when the message is persistently stored. (Column 12 lines 21-37). It would have obvious to one of ordinary skill in the art at the time of applicant's invention to implement Chandrasekaran and Hamada's invention in Stein's invention to come up with acknowledgement message when the message is persistently stored. The motivation for doing so would have to let the user know that the message has been received by source site and will be delivered properly.

As per claim 15, Chandrasekaran and Hamada and Danneels and Stein teaches the method of claim 13, but Chandrasekaran further teaches wherein dynamically determining the delay time period comprises: determining a metric based on messages handled by the server; and determining the delay time period based on the determined metric. (Column 8 lines 20-39). The reference teaches adding a priority attribute to determine when the messages are sent to the destination site. Therefore each message is going to be given a number, which is basically like keeping a count of number of messages handled by the server. Therefore it is inherent since the server is going to give priority value to each messages and also associated with the message is the UID, which is identifying the message, the server knows how many messages are handled by the server by which it will find out when these messages in the queue will be delivered to the destination site.

As per claim 18, Chandrasekaran and Hamada and Danneels teaches the computer program of claim 16, but fails to teach further comprising instructions for causing the server processor to transmit an acknowledgement message to a client that sent a received message, the message indicating that the message will not be lost by the server. Stein teaches instructions for causing the server processor to transmit an acknowledgement message to a client that sent a received message, the message indicating that the message will not be lost by the server. (Column 12 lines 21-37). It would have obvious to one of ordinary skill in the art at the time of applicant's invention to implement Chandrasekaran and Hamada's invention in Stein's invention to come up with transmitting an acknowledgement message. The motivation for transmitting the acknowledgement message is to let the user know that the message has been sent and be delivered.

As per claim 19, Chandrasekaran and Hamada and Danneels fails to teach the computer program of claim 18, wherein the computer program instructions for causing the server processor to transmit an acknowledgment message to the client comprise instructions for causing the server processor to transmit the acknowledgment message to the client for a message saved from non-persistent storage to persistent storage. Stein teaches the computer program of claim 18, wherein the computer program instructions for causing the server processor to transmit an acknowledgment message to the client comprise instructions for causing the server processor to transmit the acknowledgment message to the client for a message saved from non-persistent storage to persistent storage. (Column 12 lines 21-37). The reference teaches that

message is sent and the facsimile message is placed in the asynchronous request queue. It would have obvious to one of ordinary skill in the art at the time of applicant's invention to implement Chandrasekaran and Hamada's invention in Stein's invention to come up with transmitting the acknowledgement message for messages saved to persistent storage. The motivation for doing so would have been so that the client knows that message is going to be delivered properly.

As per claim 26-27 they teach same limitations as claim 18,19 respectively.
Therefore rejected under same basis.

Response to Arguments

Applicant's arguments with respect to claims 1,13,16,24 have been considered but are moot in view of the new ground(s) of rejection.

Claims 4-6,13-15,18-19,26-27 are rejected at least by virtue of their dependency on independent claims and by other reasons set forth above. Accordingly, claims 1-31 are respectfully rejected as shown above.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
 - A). "Message Transfer in communication network" by Black et al. U.S. Patent # 5,878,056.
 - B). "Reliable Event Delivery System" by Kailash et al. U.S. Patent # 5,951,648
6. A shortened statutory period for response to this action is set to expire **3 (three)**

Months and 0 (zero) days from the mail date of this letter. Failure to respond within the period for response will result in **ABANDONMENT** of the applicant (see 35 U.S.C 133, M.P.E.P 710.02, 710.02(b)).

7.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dhairy A. Patel whose telephone number is 571-272-5809. The examiner can normally be reached on 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on 571-272-3939. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DAP



SALEH NAJJAR
SUPERVISORY PATENT EXAMINER